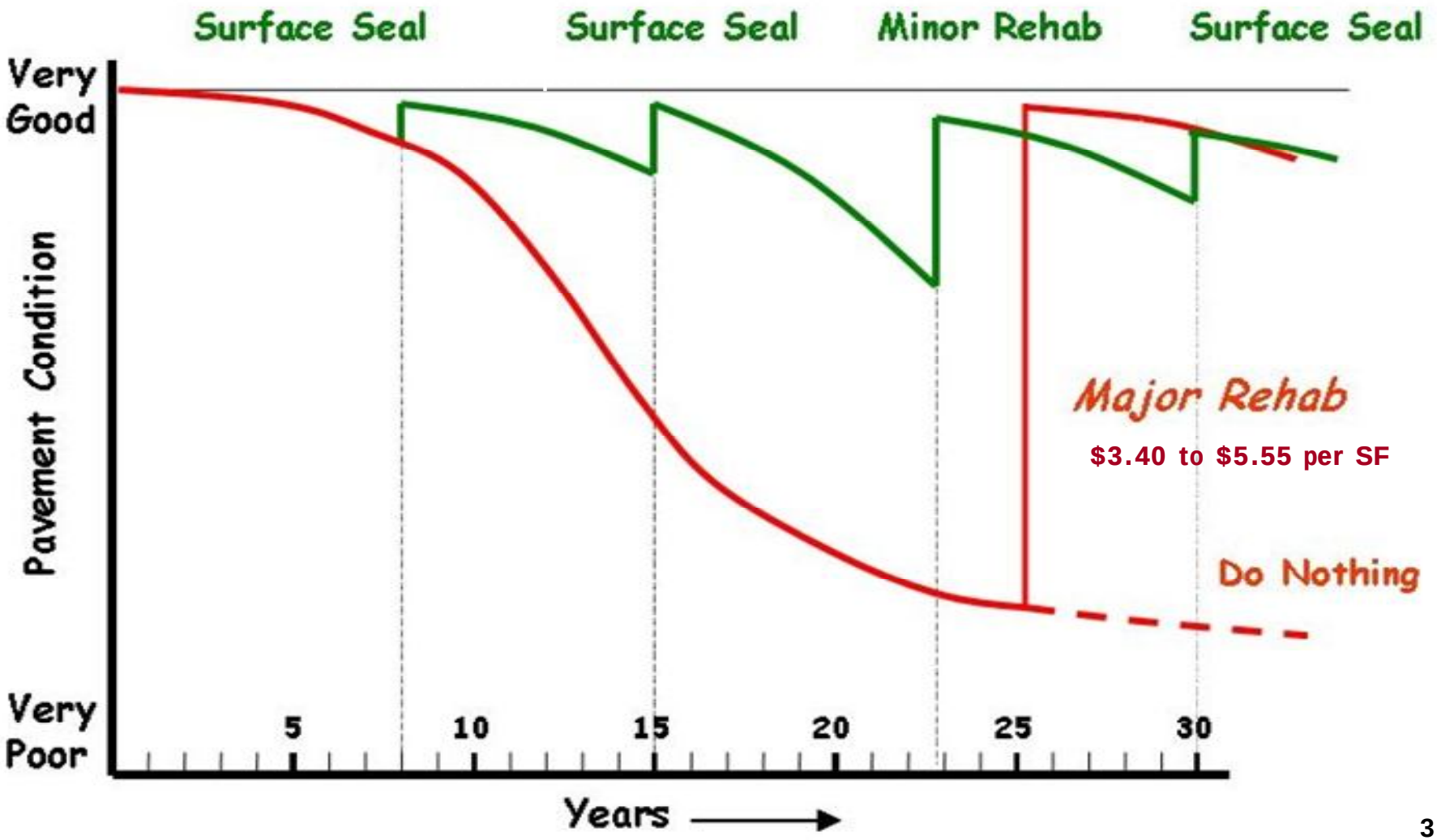
City of Chula Vista

DESIGNING AND MAINTAINING SUSTAINABLE STREETS

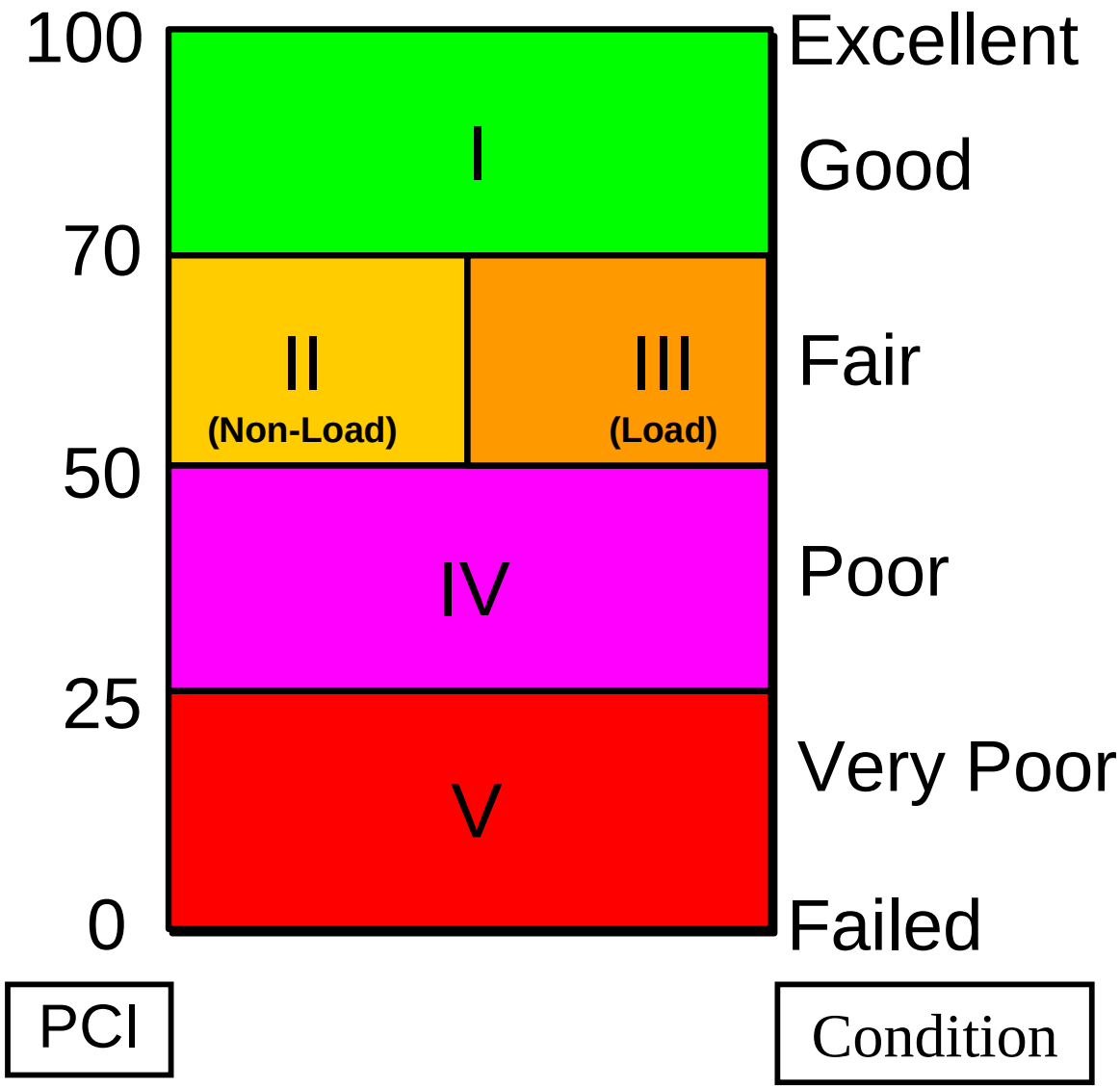
Chula Vista's Pavement Assets

Category	Centerline Miles	Lane Miles	Area – Million Sq. Ft.	PCI
Arterials	58.3	287.4	22.0	82
Collectors	77.7	223.2	19.8	73
Residential	316.4	642.5	56.4	73
Alleys	10.6	22.0	1.3	51
TOTAL NETWORK	**463.0**	**1175.1**	**99.5**	**74**

Pavement Preservation Strategies



What PCI Tells Us About Condition



New Decision Tree: Arterials / Collectors

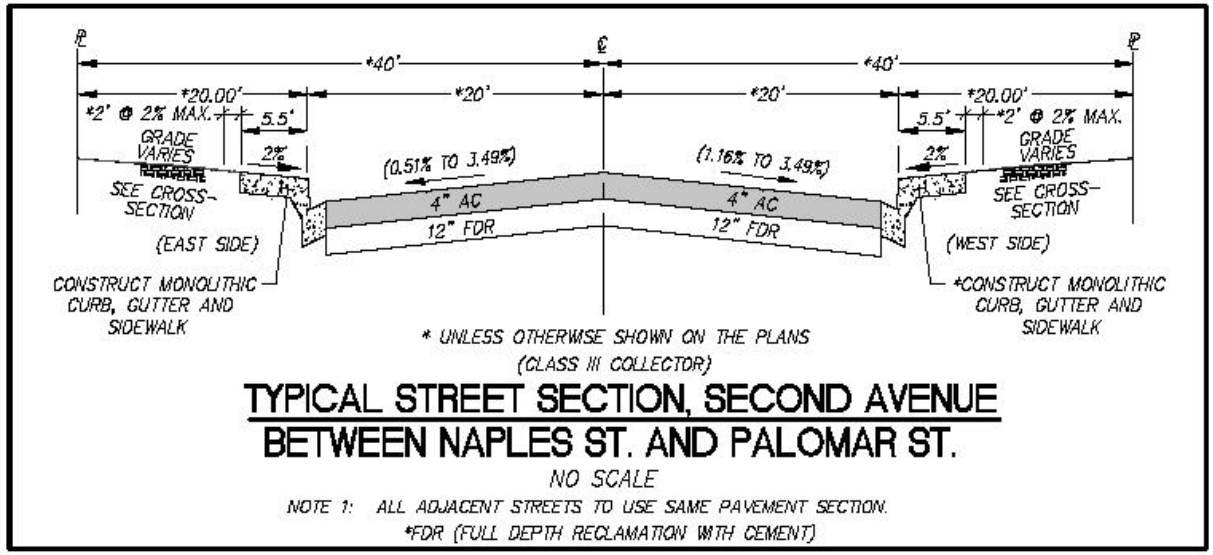
Condition (PCI)	Treatment	Cost/SF	Approximate Service Life
70 to 100	Chip Seal	$0.80	7 Years
50 to 70	Cape Seal	$1.35	9 Years
50 to 70 Load Related	Cape Seal w/ Digouts	$2.05 to $2.35	9 Years
25 to 50	RAC Overlay	$3.40	15 Years
0 to 25	Full Depth Reclamation	$5.55	25 to 30 Years

Reconstruction: Removal and replacement of both the asphalt concrete pavement and the aggregate base

Full Depth Reclamation:
Recycling and re-using the existing pavement, base and soil, which are pulverized and blended, and cement is added. 3” or 4” of asphalt concrete pavement is placed over the FDR base

Second Avenue 22’ paved width

Design Section 4”AC/12” FDR



Pulverize existing AC & Native Material

Cement distribution (5%)

Mixing Cement + “Base” + water

Sub grade preparation

Sub grade final preparation

Sub grade compaction and micro cracking

Asphalt Concrete Paving

FDR Schedule ¼ mile

Week 1 – Monday - Thurs, Pulverize & Mix Cement

Week 2 – Monday, Hot Mix Asphalt Coarse layer

Tuesday, Hot Mix Asphalt Finish layer

Summary of Results

- 36% less cost than conventional remove & replace sub grade ($133,185)
- 744 Truck trips avoided for material removal & import of sub base
- 4 week reduction of project schedule
- Higher strength than aggregate base
- Resources saved in aggregate production

Before and After FDR

Potential Pavement Toolbox

- Full depth Reclamation
- Recycled Shingles in Hot Mix Asphalt
- Cold in Place Recycling Asphalt Pavement
- Warm Mix Asphalt Pavement

Cool Pavement
Scope of Work

- Research and Investigation
- Legislation
- Availability and Feasibility
- Cost/Benefit Analysis
- Recommendations

AB 296

- Caltrans to publish a Cool Pavements Handbook by January 1, 2014
- Implement one or more cool paving pilot projects by January 1, 2015
- Analyze pilot projects by January 1, 2018
- Submit report to legislature analyzing life cycle costs/ benefits by January 1, 2018

Recommendations

- Best course of action for City
- Locations for test sites
- Funding sources
- Incentives for private sector
- Performance standards and testing
- Public education